

Lessons Learned in Redesigning CATI Surveys for Self-Administered Paper Mode

Jennifer Crafts, Ph.D. and Pat Dean Brick, M.S.
Westat

Overview of Topics

- Background: Need for conversion to self-administered modes
- Challenges in redesigning (“converting”) CATI for paper
- Testing approach
- Design issues investigated
- Lessons learned
 - Methodology
 - Examples

Background

- Decline of CATI response rates
- Federal agencies moving CATI surveys to paper
- Westat involvement in studies to redesign questionnaires
- Lack of existing survey research literature specific to redesigning CATI questionnaires
 - Consulted principles for self-administered paper questionnaires*
- Framework of User-Centered Design (UCD) adopted to drive instrument **redesign** process

*Dillman, Smith, and Christian (2009), Dillman 2008, Fowler and Cosenza (2008), Saris and Gallhofer (2007), Tourangeau, Rips, and Rasinski (2000).

Challenges in Redesigning for Self-Administered Mode

- Deciding overall methodology
 - Number of contacts: one stage vs. two stages
 - Respondent selection:
 - How to select household member to participate
 - How to make this process easy for respondents
- Engaging/motivating response without interviewer
- Collecting data for multiple household members
- Determining how to present sampling instructions

Overall Testing Approach: Rapid Iterative Cycles

- Run a few sessions, identify critical issues, stop and revise (*Repeat*)
- Session procedure: two critical elements
 - Real-time observation of actual behavior
 - Retrospective aided recall to judge:
 - Question comprehension
 - Adequacy of response options (*if provided*)
 - Accuracy of response
 - Ability to navigate
 - Response-driven skips
 - Demographic-driven skips
- Classify errors based on severity

Testing a Redesigned Self-administered Paper Version

- “...self-administered instruments require more pretesting than interviewer-administered survey instruments”

-- *Fowler (2009)*

- Past research*
 - Concurrent vs. retrospective approaches
- Realism
 - Testing context
 - Cognitive task

*Leighton, 2004; Van den Haak, de Jong, and Schellens (2004); Pressley and Hilden (2004); Kuusela and Paul (2000)

Design Issues Investigated

- Navigation aids
- Inclusion and formatting of “Don’t Know” option
- Instructions (placement and content)
- Reporting formats for complex types of items
- Sampling instructions
- Use of warm-up questions
- Number of columns

Lessons Learned: Redesigning for Self-Administered Paper

- Graphic elements have inadvertent consequences
 - Arrows are very distracting
 - Observed errors
 - Forgot to answer question itself
 - Skipped incorrectly
- Traditional skip instruction (Go To Q#) may lead to navigation errors; Go To Section X is better

Example of Graphic Navigation Arrows

8.10 Please mark your annual household income from all sources:

- ☐ Less than \$10,000
- ☐ \$10,000 to less than \$15,000
- ☐ \$15,000 to less than \$20,000
- ☐ \$20,000 to less than \$25,000
- ☐ \$25,000 to less than \$35,000
- ☐ \$35,000 to less than \$50,000
- ☐ \$50,000 to less than \$75,000
- ☐ \$75,000 or more

- ☐ Don't know/Not sure

8.11 About how tall are you without shoes?

Feet Inches OR
 Centimeters

8.12 About how much do you weigh without shoes?

Weight in Pounds OR
 Weight in Kilograms

8.13 What county do you live in? Please write the county/city/town you live in.

8.14 What is the ZIP Code where you live?

8.15 Do you have more than one telephone number in your household? Do not include cell phones or numbers that are only used by a computer or fax machine.

- ☐ Yes
- ☐ No ➔ Go to 8.17

8.16 How many of these telephone numbers are residential numbers?

Residential telephone numbers

8.17 Do you have a cell phone for personal use? Please include cell phones used for both business and personal use.

- ☐ Yes ➔ Go to 8.19
- ☐ No

8.18 Do you share a cell phone for personal use (at least one-third of the time) with other adults?

- ☐ Yes ➔ Go to 8.20
- ☐ No ➔ Go to 8.21

8.19 Do you usually share this cell phone (at least one-third of the time) with any other adults?

- ☐ Yes
- ☐ No

8.20 Thinking about all the phone calls that you receive on your landline and cell phone, what percent, between 0 and 100, are received on your cell phone?

Percent (0-100)

8.21 Do you own or rent your home?

Home is defined as the place where you live most of the time/the majority of the year. "Other arrangement" may include group home, staying with friends or family without paying rent.

- ☐ Own
- ☐ Rent
- ☐ Other arrangement

8.22 What is your gender?

- ☐ Male ➔ Go to 9.1
- ☐ Female ➔ If you are 45 years old or older and female, Go to 9.1

8.23 If female and between 18 and 44 years of age – To your knowledge, are you now pregnant?

- ☐ Yes
- ☐ No

Example of Navigation Without Arrows

Section 4: Hypertension Awareness

4.1a Have you **EVER** been told by a doctor, nurse, or other health professional that you have high blood pressure?

"Other health professional" could be a nurse practitioner, a physician's assistant, or some other licensed health professional.

- ☐ Yes
- ☐ No ➡ Go to Section 5

4.1b **WOMEN ONLY:** Was this only when you were pregnant?

- ☐ Yes
- ☐ Yes, but I was told only during pregnancy ➡ Go to Section 5
- ☐ No ➡ Go to 4.2
- ☐ Told borderline high or pre-hypertensive ➡ Go to Section 5
- ☐ Don't know/Not sure ➡ Go to Section 5

4.2 Are you currently taking medicine for your high blood pressure?

- ☐ Yes
- ☐ No

Section 5: Cholesterol Awareness

5.1 Blood cholesterol is a fatty substance found in the blood. Have you **EVER** had your blood cholesterol checked?

- ☐ Yes
- ☐ No ➡ Go to Section 6
- ☐ Don't know/ Not sure ➡ Go to Section 6

5.2 About how long has it been since you last had your blood cholesterol checked?

- ☐ Within the past year (anytime less than 12 months ago)
- ☐ Within the past 2 years (1 year but less than 2 years ago)
- ☐ Within the past 5 years (2 years but less than 5 years ago)
- ☐ 5 or more years ago
- ☐ Don't know/ Not sure

5.3 Have you **EVER** been told by a doctor, nurse or other health professional that your blood cholesterol is high?

- ☐ Yes
- ☐ No

Example of Question and Section “Go to” Instructions

15.1 During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?

☐ No drinks in past 30 days ➡ **Go to Section 16**

└─ Days
↓
Per...

☐ Week

☐ Month

Section 16: HIV/AIDS

The next few questions are about the national health problem of HIV, the virus that causes AIDS. Please remember that your answers are strictly confidential and that you don't have to answer every question if you do not want to. Although we will ask you about testing, we will not ask you about the results of any test you may have had.

16.1 Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth.

☐ Yes

☐ No ➡ **Go to 16.3**

☐ Don't know/ Not sure ➡ **Go to 16.3**

Lessons Learned: Redesigning for Self-Administered Paper

- Over-reporting happens; respondents may:
 - Telescope and demonstrate other types of over-reporting (want to report larger range of experience)
 - Report for topics of interest, even if skip instructions are understood

Example of Reporting for One Time Period

11. In the past 2 months, between January 1 and February 28, 2013, on how many days did this household member go recreational saltwater fishing in Maryland from:

a. The shore – include docks, bridges, causeways, beaches, banks or any other shore-based structure or area.

--	--

Days fished from shore –
enter "0" if none

Example of Reporting for Four Time Periods

1. For each time period below, on how many days did this person go recreational saltwater fishing in Maryland from:

a. The shore – include docks, bridges, causeways, beaches, banks or any other shore-based structure or area. Enter "0" if none.

--	--

Days in Jan., and Feb. 2013

--	--

Days in Nov., and Dec. 2012

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Days in July, Aug., Sept., Oct., 2012

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Days in March, April, May, June 2012

Example of Skip Instructions Ignored

- If you are from **50-74 years old**, GO TO Question 7.1.
- If you are from **35-49 years old**, SKIP TO Section 8.

Section 7: Aspirin Use

7.1 Is there any medical reason why you cannot take aspirin, such as an allergy, another medication you take, or other side effect?

- 1 = Yes [SKIP TO Section 9]
2 = No [GO TO Question 7.2]

7.2 Has a doctor, nurse, or other health care professional ever discussed with you the use of aspirin to prevent heart attack or stroke?

- 1 = Yes
2 = No

- If you are from **50-74 years old**, SKIP TO Section 9.

Section 8: Blood Pressure Screening

8.1 During the past 24 months, have you had your blood pressure checked by a doctor, nurse, or other health care provider?

- 1 = Yes
2 = No

Section 9: Cholesterol Screening

9.1 Within the past 5 years, have you had your blood cholesterol checked by a doctor, nurse, or other health care professional?

- 1 = Yes
2 = No

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- If you are a **female, 35-49 years old**, SKIP TO Section 11.
- If you are a **male, 35-49 years old**, SKIP TO Section 15.

Lessons Learned: Redesigning for Self-Administered Paper

- DK can be offered selectively rather than uniformly

A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot. Have you ever had a pneumonia shot?

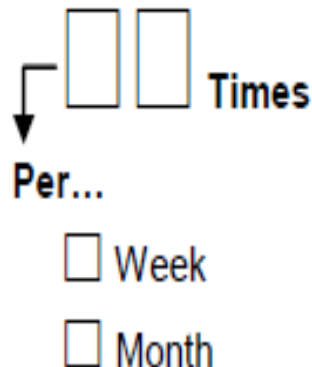
- ☐ Yes
- ☐ No
- ☐ Don't know/ Not sure

Lessons Learned: Redesigning for Self-Administered Paper

- Instructions need to be *perceived as part of the question*

During the past month, how many times per week or per month did you do physical activities or exercises to **STRENGTHEN** your muscles?

Do NOT count aerobic activities like walking, running, or bicycling. Count activities using your own body weight like yoga, sit-ups or push-ups and those using weight machines, free weights, or elastic bands.

The form consists of two empty rectangular boxes for numerical input, followed by the word "Times". A downward-pointing arrow is positioned to the left of the first box. Below this, the text "Per..." is followed by two options: "Week" and "Month", each preceded by an empty square checkbox.

Times

↓

Per...

☐ Week

☐ Month

Lessons Learned: Redesigning for Self-Administered Paper

- Questions that require reporting number and periodicity are easily misunderstood
 - Multiple participants made errors
 - Entered multiple numbers, sometimes contradictory
 - Wrote words
 - Confusion adds burden in reporting

Example of Formats for Reporting Frequency and Unit

Before

9.1 During the past month, how many times per day, week or month did you drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. Only include 100% juice?

Number of Times		Per Day	Per Week	Per Month	Never
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

After

9.1 During the past month, how many times per day, week or month did you drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar to. Only include 100% juice.

└─ Times

Per...

- ☐ Day
- ☐ Week
- ☐ Month
- ☐ Never

Lessons Learned: Methodological

- Enhance retrospective think-aloud with completed questionnaire
 - Respondents able to retrace steps and verbalize
 - Moderators able to use qualitative data for
 - Judging ease of comprehension, navigation and response
 - Suggesting revisions
- Retest revisions to ensure improvement
- Try to build flexibility into schedule and staffing to allow for rapid turnaround cycles instead of traditional rounds of [9, XX]

Thank you!

jennifercrafts@westat.com

patdeanbrick@westat.com

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